

[54] BRUSH WITH SET-IN BRUSHING FIXTURE 3,651,532 3/1972 Wettburg..... 15/186

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FOREIGN PATENTS OR APPLICATIONS

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[51] Int. Cl. A46b 3/20

[58] Field of Search..... 15/186, 187, 188, 15/176, 171; 350/67, 308, 309

[57] ABSTRACT

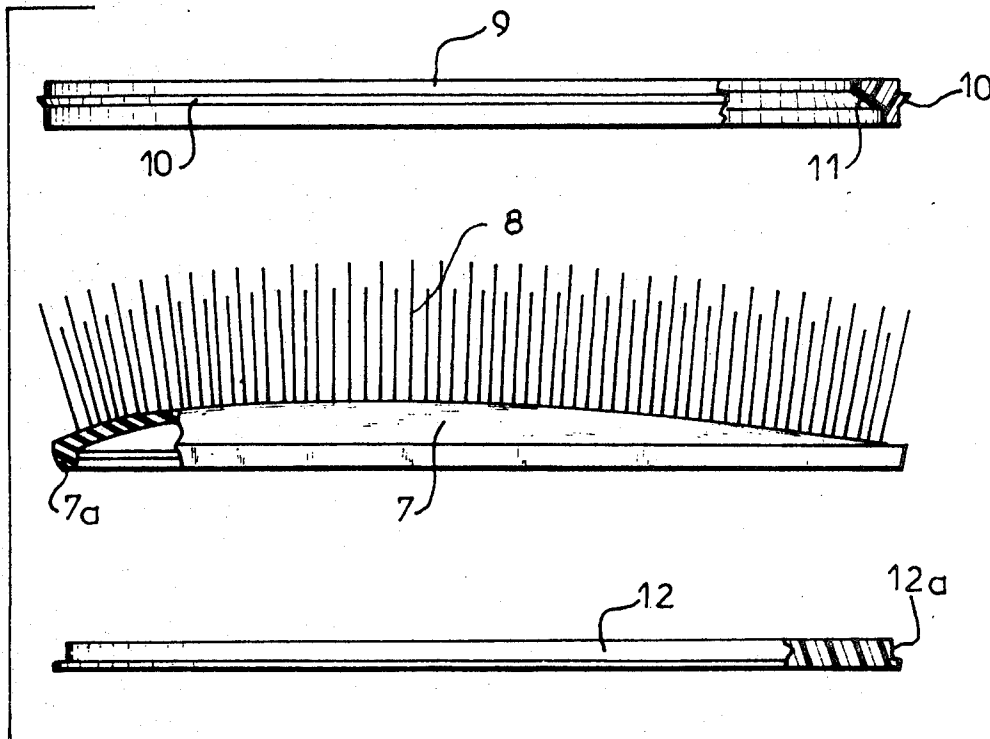
The brush comprises a rigid support, a brushing fixture formed essentially of a bulging pad of resiliently deformable material, a retaining ring surrounding the pad and adapted to be engaged into the said support, said ring being provided with an external peripheral rib co-operating with an internal peripheral slot of the said support and rigid sustaining means upon which the peripheral edge of the pad bears when the said ring is engaged into the said support.

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3 Claims, 3 Drawing Figures



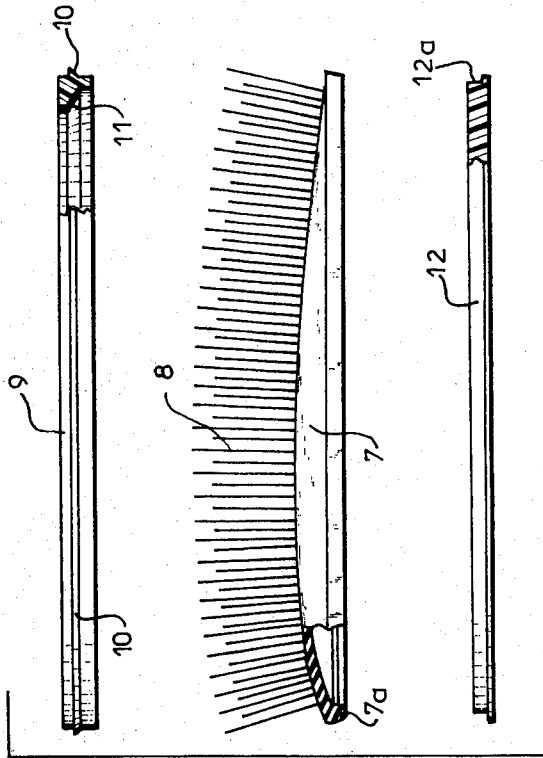


Fig. 1.

Fig. 3.

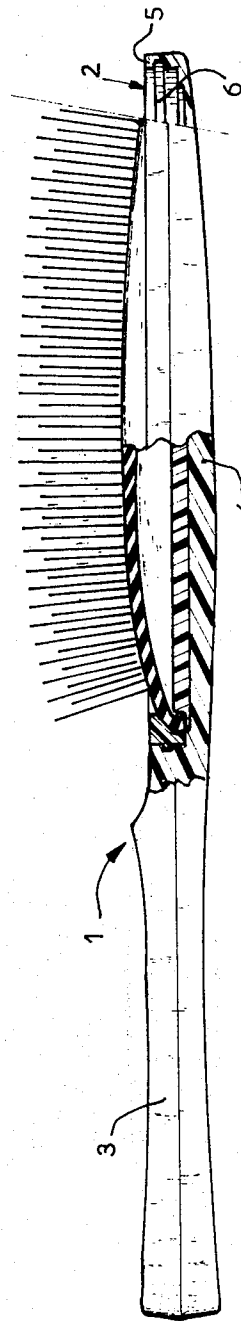
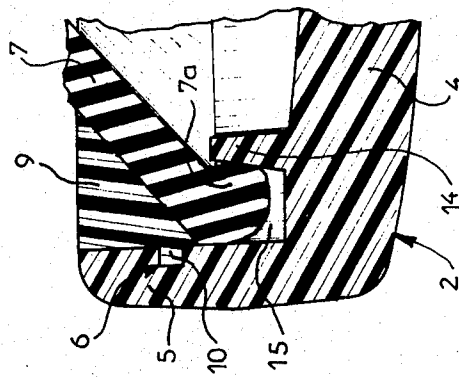


Fig. 2.

BRUSH WITH SET-IN BRUSHING FIXTURE

The present invention relates generally to brushes such as hair-brushes, clothes-brushes or the like, comprising a rigid support and a brushing fixture secured to the said support and formed essentially of a bulging pad of resiliently deformable material in which are rooted pins, horsehair or the like. In the presently known brushes of this type, the two elements constituting the brush are generally assembled by sticking the edge of the pad to the support. The stability of such an assembly is rather poor, and the strain and deformations to which the pad is subjected when the brush is being used, rapidly cause the pad to come unstuck. Moreover, such an assembly does not withstand heat, for the glue melts at a relatively low temperature.

According to the invention, the pad and the support are assembled by means of a retaining ring surrounding the said pad and set or embedded in the said support, and the deformation of the pad is limited by means of rigid element on which its peripheral edge takes its bearing when the pad is assembled to the support through the medium of the said ring.

The invention also has for its object a brush comprising a retaining ring surrounding the pad and adapted to be placed in the said support, characterized in that the said ring is provided with an outer peripheral rib cooperating with an inner peripheral slot of the support, and that, in addition, rigid sustaining means are provided, upon which the peripheral edge of the pad takes its bearing when the ring is placed in the support.

It is thus understood that, owing to the use of the complementary locking means provided both on the pad retaining ring and on the support, the invention ensures a highly reliable assembly capable of withstanding considerable strain. Moreover, owing to the fact that the assembly is performed by purely mechanical means instead of sticking, it is capable of withstanding relatively high temperatures.

In addition, the brush according to the invention has an extremely simple structure and is extremely simple to assemble, thus enabling its manufacturing cost to be considerably reduced.

According to another feature of the invention, the said rigid sustaining means are constituted by a plate whose outline corresponds to that of the pad and which is set in the latter.

Other features and advantages of the invention will appear more clearly from the following description.

In the appended drawings given solely by way of example :

FIG. 1 is an exploded elevational view of a brushing fixture according to the invention, adapted to be secured to a brush support and each of the three elements of which appears partially in section ;

FIG. 2 is an elevational view, partially in section, of a brush according to the invention, formed by the support and the brushing fixture of FIG. 1 ;

FIG. 3 is a partial sectional view of a brush according to another form of embodiment of the invention.

According to the form of embodiment illustrated in FIGS. 1 and 2, the brush according to the invention is constituted by a rigid support 1 made from any material, for instance moulded synthetic resin, the said support comprising a hollow portion or back wall 2 adapted to receive the brushing fixture and a solid handle 3. The hollow portion or back wall 2 adapted to receive the brushing fixture is generally in the shape of a

pan comprising a bottom wall 4 and a flange 5 provided on its inner face with a peripheral slot 6 which is either machined or moulded in the said flange.

The brushing fixture is constituted essentially by a bulging member or pad 7 made from a resiliently deformable material such as a synthetic or natural elastomer and obtained by way of pressure moulding. In the said pad are rooted brushing elements which, in the case illustrated, are constituted by metal pins 8, but which may also consist of nylon horsehair, boar-hair or the like. The lower portion of the pad 7 is provided with a peripheral flange or rim 7a.

The brushing fixture also comprises a ring 9, the outline of which corresponds to that of the pad 7 and the back wall 2 of the support and which is provided with an outer peripheral rib 10 adapted to be engaged into the slot 6 of the back wall 2. The inner diameter of the upper portion of the ring 9 is much smaller than that of its lower portion, so as to form an oblique inner shoulder 11 serving to retain the pad on the support, as will be explained below. The ring 9 is made from a semi-rigid material such as synthetic resin and is obtained by way of injection moulding. Such a moulding allows a sufficient accuracy of the rib 10 to enable it to be readily set or embedded into the slot 6 of the back wall 2.

The brushing fixture also comprises a rigid plate 12 whose outline corresponds to that of the pad and is adapted to be fitted into the said pad, the edge 12a of the said plate coming into contact with the inner face of the peripheral flange or rim 7a of the pad.

The brushing fixture is assembled to the support in the following manner : when the ring 9 is fitted onto the pad 7, the shoulder 11 bears upon the upper peripheral portion of the pad, and then the plate 12 is fitted into the hollow portion of the pad so that its edge 12a comes into contact with the inner face of the flange or rim 7a of the said pad, the assembly thus formed is driven into the back wall 2 by exerting a finger pressure on the ring 9 until the latter is sufficiently deeply inserted in the back wall to enable the rib 10 to be set in the slot 6, the flange 7a of the pad thus being confined between the shoulder 11 of the ring 9 and the edge 12a of the plate 12. The brushing fixture is thus firmly secured to the support without using any sticking means and as a result of an operation which is extremely easy to carry out without using any tool.

According to the form of embodiment illustrated in FIG. 3, wherein the same reference digits designate the same elements as in FIGS. 1 and 2, the bottom wall 4 of the back 2 is provided with a projecting partition 4 forming with the flange 5 of the said bottom wall a groove 15 into which is engaged the peripheral flange of the pad 7.

In this second form of embodiment the brush is assembled as follows.

As in the previous case, the ring 9 is placed on the pad 7 and then the assembly constituted by the said ring and the said pad is engaged into the back 2 of the support, the peripheral edge 7a of the pad 7 thus penetrates into the groove 15 and a pressure is exerted on the ring until the rib 10 engages into the slot 6, the flange 7a thus bearing upon the partition 14.

Of course, the invention is by no means limited to the forms of embodiment described and illustrated, which have been given by way of example only. In particular, it comprises all the means constituting technical equiv-

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alents to the means described as well as their combinations, should the latter be carried out according to the spirit of the invention.

I claim:

1. A brush comprising a rigid support having a hollow portion comprising a bottom wall and a flange surrounding said hollow portion, said flange having an inner face substantially at right angles with said bottom wall and an internal peripheral slot in said inner face, and a separate brushing fixture fitted to said support, said brushing fixture comprising (a) a bulging pad of resiliently deformable material in which are rooted brushing elements and having a peripheral edge, (b) a retaining ring of semi-rigid material surrounding said pad and having an external peripheral rib, and (c) a rigid plate having an external edge outline corresponding to that of said pad, said brushing fixture having the peripheral edge of its bulging pad confined between

said retaining ring and said external edge of said rigid plate with said external peripheral rib of said retaining ring of the brush fixture received in said internal peripheral slot in the inner face of the support flange of said rigid support and said retaining ring and said rigid plate in said hollow portion, the bottom wall of the latter seating said rigid plate, said brushing fixture being manually fitted to and separated from said rigid support by cooperating engagement and disengagement of said peripheral rib with said peripheral slot incident to movement of the brushing fixture with its rigid plate into engagement with said bottom wall.

2. A brush according to claim 1, wherein said resiliently deformable material is selected from the group consisting of natural and synthetic elastomers.

3. A brush according to claim 1, wherein said semi-rigid material is a synthetic resin.

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